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THE EXPERIENCE OF FLOW IN ADOLESCENCE.

ITS RELATIONSHIP WITH PERSONALITY TRAITS AND AGE.

Nora Leibovich * Ana Laura Maglio ** & Mariel Giménez ***

Abstract

The aim of this study is to assess the experience of flow and its relationship with the personality traits and the age of the adolescents. For this purpose, 224 participants of both sexes were selected, aged 12-20 years, who were examined with various tools: Flow State in adolescents (Leibovich de Figueroa & Schmidt, 2013). This is a self-report technique of 28 items that assesses the Flow State, covering all the aspects theoretically listed as components in the optimal experience of enjoyment. And a self-report Being a teenager nowadays, which evaluates 33 pairs of opposite personality characteristics that represent the personality domains of the NEO-PI-R (Costa & McCrae, 1992. Costa & McCrae, 2005, Leibovich & Schmidt, 2005). Among the found results, it was observed that in the adolescents with high scores on the scale of Flow State, the main personality trait was extroversion. Also, the influence of age on optimal flow experience appears in the chosen activities.

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Psychology currently incorporates the study of individuals' strengths and virtues. The field of Positive Psychology is concerned with subjective experiences positively valued: well-being and satisfaction with the past, hope and optimism about the future and flow – as a way to experience happiness, manifested in the present (Seligman & Csikszentmihalyi, 2000). Turning the focus of the discipline to the study of positive human characteristics that contribute to healthy development, it is crucial for addressing current adolescence. In this sense, the present work aims to contribute to the updating of the concept of adolescence in our environment as a vital stage, incorporating the study of optimal experiences of enjoyment - flow and its relation to the personality characteristics and the age of participants.

Flow State is a dynamic equilibrium. Experiencing flow depends on the balance between the personal capacities and the perceived opportunities for action. Experiencing anxiety or boredom presses the subject to adjust his level of skills and/or challenges in order to get out of that aversive state (Nakamura, J., & Csikszentmihalyi, 2002).

Csikszentmihalyi (2002), describes *flow* as a subjective state with the following characteristics:

- Intense and focused concentration on what is being done at present
- Merging of action and awareness (attention)
- Loss of reflective self-awareness (eg: Loss of consciousness of oneself as a social actor)
- Sense of control of one's actions; that is, a feeling for which you can deal with the current situation because it is known how to respond to what might eventually happen
- Distortion of temporal experience
- Experience of the activity as a rewarding in itself.

Flow State is intrinsically rewarding and leads individuals to seek to repeat the experiences that make it possible; this introduces a selection mechanism that promotes growth. As people become more specialized to perform challenging activities, they develop higher levels of skills and the activity itself becomes less absorbent than it was before. To continue experiencing flow, people should identify with more complex challenges and engage with them. The optimal level of challenges fits existing skills, resulting in a more complex group of capacities for action. A flow promoting activity typically provides a gradual set of challenges, which allow the person to accommodate to them continuously and deeply enjoy while the skills increase. To Watson, the activities particularly conducive to positively raise spirits are: sociability, interpersonal behavior, exercise and physical activity (Watson, 2002).

The experience of flow is then an expansion force in relation to the goals and interests of the individual as well as for the growth of skills related to an existing interest (Csikszentmihalyi , 1997a, 1997b, Nakamura, J., & Csikszentmihalyi, 2002).

The regulation and experience of both positive and negative emotions are deeply rooted in the personality of the subject. The development of personality from childhood to adulthood is a subject of study that is becoming increasingly important (Baker , Victor , Chambers & Halverson , 2004 ; De Fruyt , Mervielde , Hoekstra , & Rolland , 2000 , McCrae et al. 2002, McCrae , Costa & Martin , 2005 ; Pullman , Raudsepp & Allik , 2006 ; Scholte & De Bruyn , 2004) . Scientific literature has mainly focused on the assessment of personality in adult subjects , in whom fall on most systematic empirical studies conducted (McCrae , Martin & Costa , 2005 , McCrae et al. , 2002), although currently studies in adolescent population have prospered, validating and adapting concepts and techniques to deal with the study of psychological variables at this stage of life with greater reliability. The studies on this topic conducted on adolescents have been largely developed on clinical or maladaptive population, identified according to some external criterion. However, it is necessary to consider other people taking into account that different authors agree that

most teenagers go through this stage without significant negative consequences (Arnett, 2008; Coleman & Hendry, 1994; Krauskopf, 2007).

The social perception or image that adults have of adolescents has been and is of interest in our environment, finding various studies on the subject (Leibovich de Figueroa & Schmidt, 2009; Maglio, Injoque - Ricle, Leibovich de Figueroa, Cuenya, & Blum , 2009), particularly in the research of the self-perception of adolescents personality; that is to say, from the perspective of young people themselves.

The Personality Assessment in Adolescents

For personality assessment in children and adolescents, instruments specifically designed for this population have been used. Some research has shown that the measures used in the adult population are significant and applicable to teenagers (From Fruyt et al. , 2000 ; Parker & Stumpf , 1998) . Among them, there is the NEO -PI -3 (McCrae, Costa , et al. , 2005) , based on the NEO -PI- R (Costa & McCrae , 1992), which operationalizes the Five Factor Model of personality (FFM). It has been linguistically adapted to be used with adolescents allowing to extend the knowledge of the personality of the adult to the teenager (McCrae et al., 2002). Studies carried out with NEO -PI -3 have shown adequate psychometric properties as well as a slight improvement in the internal consistency of the instrument compared to the version for adults (NEO -PI- R).

To address the assessment of self- perception of personality domains , Five Factor Model of personality (FFM) has been widely used, which comprehensively covers the five domains that define the human personality in different cultures (De Fruyt, De Bolle, McCrae, Terracciano & Costa, 2009, McCrae et al., 2010).

Structural analyzes of these descriptors reflected consistently five broad factors:

Neuroticism (N): tendency to experience negative emotions such as anxiety and depression.

Extraversion (E): tendency to be sociable, warm, active, assertive, joyful and in search of stimulation.

Openness to Experience: tendency to be imaginative, unconventional, emotional and artistically sensitive.

Agreement (A): dimension of interpersonal relationships characterized by altruism, trust, modesty and cooperativeness.

Conscientiousness (C): tendency to be organized, determined, persistent, reliable and follower of rules and ethical principles (Terracciano, Löckenhoff, Crum, Bienvendu, & Costa, 2008).

The assessments based on self-reports refer to the subjective perception that makes the subject about himself. In this sense, the subjective perception becomes relevant because few events of our lives are objectively important in an absolute sense; however, what matters is the subjective assessment we make of them. It is essential that we perceive it as important and that they represent goals that are worth following, to get involved and participate in them in order to obtain rewarding experiences that make our abilities more complex. Contemporary researchers emphasize that it is the process of striving after goals, rather than the achievement of goals *per se*, which is crucial for joy and positive affect (Watson, 2002). Myers and Diener (1995) conclude: "Happiness comes less from passive experience of desirable circumstances than from the commitment in valued activities and progress toward personal goals". Csikzentmihalyi (1997a) in turn argues: " The best moments usually occur when the mind and body of a person comes to its limits in a voluntary effort to accomplish something difficult and worthwhile".

The possibility of self-reflection, inherently human, allows having a perception of one's personality and currently imagining oneself prospectively. This ability to think consciously about oneself (self-perception) is what allows us to anticipate the consequences of behavior, think about who we are and what we are doing , and intentionally modify behavior based on a target (Leibovich de Figueroa et al. 2011).

The notion that frequent experimentation of positive emotions is the framework of subjective well-being and life satisfaction has significant empirical support. Diener (1991) found that the relative proportion of time that people feel more positive emotions compared with negative emotions, is a good predictor of self-reports of happiness; on the contrary, the intensity of emotions resulted in a poor predictor (Lyubomirsky, King, & Diener, 2005).

The experience is determined by the opportunities and capacities for action subjectively perceived. That is to say, there is not a body of information and a set of challenges within the area of expertise of the person objectively defined; there is the information that is selectively attended to and the opportunities for action that are perceived. Also, it is not meaningful to talk about the abilities and attentional skills of a person in objective terms, what goes into the living of the experience are those capacities for action and those resources and attentional biases involved in the current context of the subject. It is the opportunities and capacities to act subjectively perceived that determine the experience. The information is selectively attended. It is the subjective challenges and the subjective skills, not the objective ones, which influence the quality of the experience of a person (Nakamura & Csikszentmihalyi, 2002). That to which attention should be paid, how intensely and for how long are decisions that will determine the content of consciousness, and therefore experiential information available to the body (Csikszentmihalyi, 1975).

In the case of the disposition to experience positive affectivity, high levels of positive mood are more likely when the person is focused towards the outside and actively engaged in the environment (Watson, 2002), two aspects that are found in the conditions for *flow*.

Background

The relationship between positive experiences and personality traits has been studied with positive affectivity scales that are strongly and consistently related to general personality traits, particularly with Extraversion (Watson, Clark, & Tellegen, 1988; Watson & Clark, 1999). Negative affectivity is strongly related to Neuroticism and more

modestly related to other traits. Extroverted people report a substantial greater joy, enthusiasm and energy, as well as high levels of boldness and confidence (self-confidence). Numerous studies showed that positive affectivity is moderately correlated with several indicators of social behavior, including the number of close friends, the frequency of contact with friends and family, the possibility of making new relationships with other people, the engagement in social organizations and the average level of social activity. Accordingly, those scoring high in positive affectivity tend to be socially active extroverts (Watson, 2002).

Centralized studies in positive affectivity have shown that joviality and self-confidence are strongly correlated with the trait of Extraversion. Meanwhile, self-confidence has moderate negative correlations with Neuroticism and Agreeement. Finally, it has been concluded that the data show evidence about the general character of the relationship between personality and affectivity (for example, between negative affectivity and Neuroticism and between positive affectivity and Extraversion) and the specific character (for example, between hostility and Agreeableness, and between attention and Conscientiousness) (Watson & Clark, 1999).

As background to this study, there has been recent research in our context that focuses on characterizing adolescent's personality from diverse viewpoints. The work in which the vision on adolescents in our environment from an adult perspective is interesting. In one of them, held in the City of Buenos Aires (Maglio et al., 2009), it was concluded that adolescents aged 15 to 17 years old are perceived by adult observers as having higher self-control abilities , planning, organization and resolution of tasks , and greater will and determination, compared with adolescents of 12-14 years. That is, it is expected that the adolescent organizes his personality, increasingly developing the ability to control his psychic energy towards specific goals. In other words, as teenagers grow older, it is expected that adolescents acquire and develop socially desirable characteristics on the way to adulthood.

The aim of this work is then to observe the positive aspects of the experience in activities, such as an optimal experience of enjoyment - flow and characterize how the adolescent undergoing the experience is currently perceived.

Exploring these issues will allow the finding of empirical evidence to begin to answer whether there are domains of personality factors that might arise as promoters of positive experiences and psychological well-being. Thus, the questions that guide this research may arise in the following terms:

What is the relationship between chronological age and flow experience?

Do adolescents who experience flow differ in the perception of their personality traits today?

Based on what has been presented, the paper aims to analyze the relationships between personality traits and flow experiences in Argentinian adolescents.

Aims

1. Characterize the optimal experiences of enjoyment - flow - on adolescents in our environment (City of Buenos Aires, Argentina).
2. Identify the self-perception of personality traits currently in selected adolescents.
3. Analyze the relationships between personality traits and flow

Hypothesis

- 1 - High levels of optimal experience of enjoyment -flow – are accompanied by high levels of Extraversion.
- 2 - Chronological age influences flow scores.

Method

Participants

In this study, 224 adolescents who are attending three high schools (two of them in the City of Buenos Aires and the other one of Buenos Aires province, Argentina) participated.

The 60.8% were female and 39.2% male. Ages ranged between 12 and 20 years old ($M = 14.74$, $SD = 1.62$). Of all respondents, 21% reported having repeated a grade during secondary schooling.

For this study, the type of family these adolescents belong to was defined according to the information provided by the people they live with. So, 53.2% live with both parents (nuclear biparental family type), 25.6% with only one parent (nuclear monoparental family type), 8.5% reported living in a compound family type, which does not incorporate other relatives, 7% live with their extended family, which incorporates other relatives (neither parents nor siblings) and, finally, 5.7% of respondents mentioned other type of family composition, not reflected in the types named above.

Regarding the level of education of the mother, 9.2% completed primary schooling, 7.5% did not complete it and 1% did not go to school. 20.30% completed high school and 15% attended only a few years. 10.8% completed tertiary education and 7.8% just began it. 25.5% completed college and 4.9% only began it. As regards the educational level of the father, 10.4% completed primary school, 9.4% did not complete it and 1.3% did not go to school. 23.1% completed secondary school and 15.4% only attended a few years. 8.4% completed tertiary studies and 4.3% only started it. 20.40% completed college and 7.4% only started it.

About the employment status of parents, the following information was obtained from participants: When it comes to mothers, 69.6% have a stable job, while 16.7% are unemployed or have a casual work and the remaining 13.7% is not in any of the options above.

In the case of parents, 88.7% have a stable job, 8.5% are unemployed or have a casual work and 2.8% are not in any of the two options.

Instruments and procedures

The instruments, listed below, were administered collectively at school. This administration was in charge of psychologists belonging to the research team.

Groups of 25 students were formed and instruments were administered in a single group meeting. These groups were formed according to the age of the subjects. The aims of the research were explained to them and that their participation was anonymous and voluntary. The parents of those adolescents who agreed to participate had to sign a consent form.

1. ***Sociodemographic Questionnaire.*** It has been specifically designed for this study, to evaluate some sociodemographic characteristics of the participants.

2. ***Self Report - Being a teenager nowadays.*** It was designed based on the adaptation aimed at adolescents by Leibovich and Schmidt (2005, unpublished), who had the permission of the authors of the National Character Survey Costa & McCrae (2005). Both authors participated on behalf of Argentina, in the International Project: "Personality Profiles of Cultures: Informant Ratings of Individuals and Nations", "Personality and stereotypes of Ethnic group: The role of Acculturation on Average Personality Profiles".

This self-report evaluates 33 pairs of opposite personality characteristics that represent the personality domains of the NEO-PI-R (Costa & McCrae, 1992).

The purpose of this instrument is to evaluate the self-perception of aspects of adolescent's personality at present, asking to the respondents to point the way in which they are currently perceived.

For the data on psychometric aspects of the original instrument see publications cited. As for reliability studies conducted in the adaptation, an Alpha of Cronbach of .55 has been obtained for the total scale. The reliability analysis for each sub-scale has shown the following Alpha coefficients: .60 Current Adolescent Extraversion, .60 Current Adolescent

Opening, .63 Current Adolescent Agreement, .67 Current Adolescent Conscientiousness, .55 Actual Adolescent Neuroticism.

3. *Flow State in adolescents*: It is a self-administered technique of 28 items that assesses the Flow State (Leibovich de Figueroa & Schmidt, 2013). It covers all the aspects theoretically mentioned as components in the optimal experience of enjoyment. The mode to answer corresponds to a Likert scale of 3 options (agree- neither agree nor disagree- disagree). The scale was developed taking into account the characteristics of adolescents in our socio-cultural environment (ecological validity). The final scale was generated from the following steps.

Firstly, the linguistic-conceptual adaptation of the items was done, based on the presentation made by García Calvo, Jiménez Castuera, Santos-Rosa Ruano, Queen Vaíllo, & Cervello Gimeno, (2008). Secondly, the scale was administered to adolescent judges, asking them for judgments in relation to the understanding of the items and proposals for alternative items.

From these suggestions, the final scale was made, which consists of 28 items obtaining a reliability Alpha coefficient = .61.

The factor analysis (Promax method) identified seven factors related to the basic content of the concept of flow, obtaining from adequate to good levels of reliability for each sub-scale (Hogan, 2004) :

- Factor 1. Autotelic experience (.77)
- Factor 2. Control of the task and its goals for the future (.63)
- Factor 3. Absorption or decentralization of context (.72)
- Factor 4. Perceived control of the activity (.66)
- Factor 5. Perception of time (.58)
- Factor 6. Behavior Control (.60)
- Factor 7. Balance between ability and challenge (.66)

Data Analysis

Descriptive statistics were calculated and the percentile distribution in the sample for the scale of the "Flow State in adolescents". The results of this scale were compared by the gender of adolescents with Student's *t* test and according to their age with the ANOVA test. The selected adolescents were those who reported low flow state (using the criterion that their scale scores were below percentile 25 in this sample population) and high flow state (scores above percentile 75) and the personality characteristics between these two groups were compared with the ANOVA test. Lastly, the frequencies of response of the activities that generate a flow state in adolescents were calculated.

Results

The information on the examined variables in relation to the total score of flow is presented here.

Regarding the characterization of optimal experiences of enjoyment - flow – it was observed that participants experienced in varying degrees the selected activities. Table 1 presents the descriptive statistics and the percentile distribution corresponding to raw scores obtained in this to that group of adolescents.

Table 1 - Descriptive statistics and percentile distribution for flow experience in adolescents

N	224
Average	68.67
Median	71.00
Typical	9.780

Deflection.	
Minimum	35
Maximum	84
Percentiles	Percentile Values
5	44.75
10	58.00
25	64.25
50	71.00
75	75.75
90	78.50
95	81.75

No significant differences were found according to the sex of the adolescents (X flow females = 67.7, SD = 10.1; flow X males = 70.2, SD = 9.1, $t = -1.78$, $p = .07$). On the contrary, there were significant statistical differences as regards the age and the perceived personality characteristics.

With respect to age (see Figure 1 - $F = 3.11$; $p = .006$), it was shown that the degree to which they experience flow descends from 12 to 17 and increases again after 18 years old.

Graph 1 – *Medium Score for flow experience according to the age of adolescents*

Specifically, adolescents of 12 and over 18 years old perceive a significantly greater degree of flow than adolescents of 17 years old (see Table 2).

Table 2 - Pairwise comparisons for the flow experience according to adolescents' age.

Recategorized Age (over 18 unified)	N	Subset for alpha= .05		
		1	2	1
17.00	28		62.43	
13.00	36		68.06	68.06
16.00	25		68.16	68.16
15.00	49		69.35	69.35

14.00	53	69.91	69.91
18.00	19		70.53
12.00	14		74.07
Sig.		.096	.381

- a. Averages are shown for groups in homogeneous subsets. (Hochberg). Use the sample size of the harmonic median = 26,234.
- b. The group sizes are not equal. The harmonic median of the groups' sizes will be used. The levels of type I error are not guaranteed.

It was also examined whether there were differences observed in the self-perception of the personality in those adolescents who reported experiencing high and low levels of flow in relation to the other adolescents who were part of the sample (see Table 3).

Table 3 - Comparison (ANOVA) of the personality domains in adolescents who perceive high and low flow experience

	Low Flow (n =59)	High Flow (n =62)	ANOVA			
	X	DE	X	DE	F	Sig.
Current Neuroticism	18.86	4.216	17.92	4.009	1.597	.209
Current Extroversion	24.36	4.209	27.31	3.890	16.055	.000
Current Openness	24.68	4.840	26.39	5.003	3.642	.059
Current Agreement	23.19	3.679	24.27	4.320	2.213	.139
Current Conscientiousness	19.78	4.628	21.02	4.532	2.204	.140

Note: n = 120; gl = 1

The results indicated that those experiencing more flow in their activities were significantly described as more extroverted than those experiencing low flow. With regard to the other dimensions of personality evaluated, there were not statistically significant differences.

For the selected activities in which optimal enjoyment experiences are manifested- *flow*, artistic activities or sports appear more often (53.1 %). Secondly, but at a slower rate, social activities appear (2.9 %). Table 4 presents the frequencies and percentages of choice of activities selected by adolescents.

Table 4 - Percentage according to the type of chosen activities– Grouped Activities

		Frequency	Percentage
Valid	Duties (intra or extra home duties and school homework)	4	5.1
	Artistic Activities or sports (including hobbies or others)	50	52.0
	Social Activities	20	21.4
	Use of Technology	16	17.3
	Passive Leisure (or passive activities with no goal)	2	2.0
	Total	91	98.0

Finally, the activities most frequently done by the group of adolescents who experience greater flow (greater than percentile 75) are distributed as follows: 22.4 % were to share activities with friends , 21.4% do some sport and less frequently (15.3 %) to listen to music and do recreational activities (12.2 %) .

Conclusions

We have characterized the experience of flow in adolescents in our environment in relation to the preferably selected activities.

Coincidentally with the findings of other authors (Watson , 2000 , Watson & Clark , 1992.1997 , 1999) adolescents who experience higher levels of flow are among those who are perceived as extroverted and socially active (when considering this condition from the sharing of activities with friends and / or the doing of sports , among others.) .

Chronological age influences flow scores. At 12, in general terms, adolescents are placed in percentile 75 of this sample, while at 18 years old in percentile 50. It is reasonable to interpret these findings because at the age of 12, the social pressures related to the image of teenagers as well as the diversity of personal interests and vocational characteristics of this evolutionary time would not play a major role in the experience of flow. This optimal experience continues to decrease until it reaches its lowest point at 17 to increase significantly at 18. This is an interesting fact that deserves to be investigated more deeply, in relation to both adolescent's self-perception and the characterization adults perform about them to try to elucidate the influence exercised in the construction of the meaning that is rooted in this vital stage.

This paper aims to show the possibility of experiencing positive emotions during adolescence, as the experience of flow is. These emotions are fundamentally related to certain personality characteristics that should be supported in their development and expression. Also, the type of activities that promote the experience of enjoyment in adolescents is another fact that should be considered in a special way.

Finally, all of these findings allows to identify and begin using in those intervention strategies those factors that seem to be predisposing or promoters of positive experiences and psychological well-being in adolescents.

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